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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,095	08/21/2001	Hiroyuki Kado	NAK1-BN30a	8004

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EXAMINER
RAMSEY, KENNETH J

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 01/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/934,095	KADO ET AL.	
	Examiner	Art Unit	
	Kenneth J. Ramsey	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *111-130* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *111-130* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Petition to make special

This case has been treated special in accordance with the decision dated August 30, 2002.

Anticipation

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 117, 118, 120, 122-125, 128 and 130 are rejected under 35 U.S.C. 102(e) as being anticipated by Inoue et al. Note that Inoue et al discloses a plasma display panel having a plurality of discharge spaces formed by arranging a plurality of partitions 29 to divide the inner space between front and back panels of the display, a sealing member of known sealing material 32 [i.e., glass as disclosed by the cross hatching in figure 1] , a first space (in the upper portion of figures 13 and 14) between the first ends of the partitions and the sealing glass layer having a first vent 31b, and a second space (in the lower portion of figures 13 and 14 of Inoue et al) between second ends of the

plurality of partitions and the sealing glass member having a second vent. The method of use as recited in claim 116 fails to distinguish the display structure as claimed from that of Inoue et al.

Obviousness

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 111-130 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al (6,236,159) in view of Yamamoto et al (5,998,924), Todd (3,981,554) and MacNair (3,492,598). Inoue discloses a process of purging a plasma display panel impurities including introducing a cleaning gas through a first vent opening while exhausting a purging gas through a second opening. Barriers 29a are provided to cause the gas to flow between the barrier ribs (partitions) 29 in a uniform manner. Inoue further includes the step of discharging electrodes (aging) within the display panel to aid in the gas purging operation. As to the structure of the partitions and sealing glass, note Inoue, figures 3, 5, 6, 8 and 13 of Inoue. Inoue differs from the claimed invention at most by the purity of the purging gas. However, since the process is intended to clean the display panel, it would not make sense to purposely introduce impurities into the display panel that are known to shorten the life of a display panel, such as water vapor at 15 torr. Since applicant has argued that water vapor at a partial pressure of 15 torr is not disclosed by Inoue to be a harmful contaminant, the examiner

herein cites Yamamoto et al and Todd to support his notice that it was a well known contaminant. See Yamamoto et al, column 16, lines 5-38 and Todd, column 4, lines 43-57. Such non contaminant containing gases are well known in the art, See MacNair, column 3, lines 37-42. Thus to use a dry, high purity argon gas in the process of Inoue would have been obvious to one of ordinary skill in the art.

5. Claims 111 – 118, 120, 126 and 127 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al (5,564,958) in view of Yamamoto et al (5,998,924), Todd (3,981,554) and MacNair (3,492,598). Itoh, , column 6, line 64 through column 7, line 34 discloses a process of flushing a display device with a hydrogen gas at 350 °C and alternating the flushing with as many as 8 periods of conducting a gas discharge of [feeding electricity to the electrodes] the display to facilitate "gas cleaning". Those of ordinary skill in the art familiar with term "gas cleaning" would recognized that the same is an aging process wherein an electric discharge is produced which ionizes gas molecules in the dispay device so that ions bombard the cathode and knock loose gaseous impurities therefrom. The process of Itol et al, column 6, line is said to result in a significantly longer life of the display device whereas prior art gas cleaning processes which did not include repetitive "gas cleaning" and flushing failed to result in improved life of the display (column 2, lines 17-42). Itoh et al, column 7, lines 28-35, further teaches substituting argon gas for the hydrogen gas. Itoh et al differs from claim 126, in that the partial pressure of water vapor in the purging gas was not disclosed and differs from claim 112 in that a plurality of aging steps in which a gas discharge is produced are claimed such that the gas flushing is conducted between the aging step.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to have employed a clean hydrogen atmosphere with the partial pressure of steam being less than 15 torr since water vapor of that pressure is a well known gas contaminate of display devices which should be removed. Since applicant has argued that water vapor at a partial pressure of 15 torr is not disclosed by Inoue to be a harmful contaminant, the examiner herein cites Yamamoto et al and Todd to support his notice that it was a well known contaminant. See Yamamoto et al, column 16, lines 5-38 and Todd, column 4, lines 43-57. Such non contaminant containing gases are well known in the art, See MacNair, column 3, lines 37-42. It would make no sense to reintroduce in the aging step of Itoh et al the same contamination being removed. As to the step of conducting the aging between gas flushing steps, it is first required that the atmosphere be sufficiently flushed and evacuated such that there is no substantial damage to the internal components by oxidation or by ion bombardment. Therefore, a gas flush must be conducted prior to aging. Also, aging is known to result in gas impurities being released that detract from the life of the display and which may cause damage to the cathodes by ion bombardment during the aging. Therefore a gas flush is required at least intermittently to remove any high levels of gaseous impurities that may result from aging. As to claim 126, high purity argon is a dry gas. Thus, the claimed process (including claim 126) is clearly obvious. As to claims 116, 117, 118, 120, and 127, it is well known to include barrier walls in gas discharge display panels to limit the cross talk between adjacent pixels. Since those barrier walls limit the gas in one direction, the gas must flow in the direction of the barrier walls such that the cathodes are cleaned. To

enable a uniform gas flow across each cathode, it further would have been obvious for one of ordinary skill in the art to provide adequate space at the ends of the barrier walls to allow for gas to freely access each passage form the inlet and to then flow to the outlet. As to the location of the inlet and outlet, claim 120, it is a common expedient to locate the same at the vicinity of the outermost partitions and on opposite sides of a series of parallel flow barriers. A common example being the automobile radiator.

Response to arguments

6. Applicant's arguments filed December 16, 2002 have been fully considered but they are not persuasive. The "dependant" claims rejected under 35 USC 102 are so rejected because there is no difference between the claimed subject matter and that of Inoue. Although the base claims include the reference to an aging process, the process of aging does not comprise the claim subject matter of claims 117-130 which are directed solely to the structure which is subjected to aging. See the preamble. Claims 117-130 are thus not dependant claims but instead are partly independant in their scope since they are not directed to a process and to perform the process is not required to infringe the claims; instead claims 117-130 refer back to a process claim to incorporate the structure of the base claims but they do not incorporate the process steps which are subsequent to the creation of the claimed structure, i.e. a PDP to be subjected to a process of aging. Applicants further argue that Inoue discloses flow restrictors as part of his structure. Such is immaterial in that the flow restrictors of claims 13 and 14 fail to prevent performance of the aging process of Inoue. As a matter of fact the flow restricters of figures 13 and 14 merely correspond to applicants disclosed structure of

the sealing member which contacts the barrier walls 63 at 61 to restrict flow in figures 10 and 11. Note is made of the amendment to the second paragraph at page 39 of applicants specification. Since this embodiment has not been particularly claimed, it is not seen how this change affects the patentability of the rejected claims. Applicants refer to the peripherial space in their remarks as if the claimed space lies between one end of the series of partitions and the sealing member, i.e., the peripheral space to the left and right of the figures and not the peripheral space at the top and bottom of the figures. However, the claims define each space as lying between the ends of the partitions and the sealing material, e.g., the space 66a at the top of figure 6. Although Applicants refer to this space as being large compared to the space between adjacent partition walls, claims 117, 118, 120 122-125, 128 and 130 recite no size relationship between the space 66a and the space between adjacent partition walls. Therefore as claimed there is no difference between claims 117, 118, 120, 122-125, 128 and 130 and Inoue

7. Applicant quotes Inoue, column 8, lines 34-40 which notes that the step of discharging electrodes in the display panel, i.e., aging, allows the evacuation and gas introduction to be shortened compared to the "prior art" and thus contend that Inoue is not directed to an "extended aging process". However, the term "shortened" is a relative term. There is no indication that the claimed aging process lasts longer than the process of Inoue and the claims in fact do not specify any time limitation. Therefore, applicants arguments are not commensurate with the scope of the claims and fail to show any unobvious difference between the claimed invention and Inoue as modified.

8. Applicants did not respond to the rejection of claims 111-118, 120, 126 and 127 based upon Itoh et al as a primary reference. The examiner respectfully notes that Itoh et al, column 6, line 64 through column 7, line 34, is clearly an "extended aging process at high temperature" and that the use of a high purity discharge gas and the claimed gas flow pattern therein would have been obvious for the reasons stated in that rejection. Thus claims 111-118, 120, 126 and 127 are unpatentable regardless of the validity of applicants arguments with respect to Inoue.

9. Lastly, the patents to Todd and Yamamoto have been cited merely to support the examiners statement in the last Office action that it was well known that water vapor was a contaminate, at least at a partial pressure greater than 15 Torr. Since applicant argued that the reference combination did not teach this limitation, the citation of Todd and Yamamoto only to support this assertion of the prior Office action is proper and the above action can be made final. See M.P.E.P. 2144.03, last paragraph.

Action Made Final

1. **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Directions for Responses

Any formal response to this communication should be directed to examiner Kenneth Ramsey, Art Unit 2879, and either
faxed to: 703-872-9319; or mailed to: Box AF
Assistant Commissioner For Patents
Washington, D.C. 20231

Technical inquiries concerning this communication should be directed to Kenneth J. Ramsey, (703) 308-2324 (voice), (703) 746-4832 (fax).

Kenneth J. Ramsey
Primary Examiner
Art Unit 2879